

12. The apparatus of Claim 10, wherein the sequence signal is an M-sequence.

13. The apparatus of Claim 10, wherein the signal processor is configured to compare
5 points of correlation, if any, of the correlated signal, to a threshold signal to
determine if the first communication device is requesting an initiation of
communication.

14. The apparatus of Claim 10, wherein the correlation comprises cross correlation.

10

15. The apparatus of Claim 10, wherein the period of activity is intended to at least
reduce the power consumption of a communication system.

16. A signal for requesting resumption of communication between a first
15 communication device and a second communication device, the signal comprising
a signal selected from the group consisting of M-sequences defined as:

$$s(n) = s(n-2) \oplus s(n-5) \oplus f(n)$$

$$s(n) = s(n-1) \oplus s(n-6) \oplus f(n)$$

$$s(n) = s(n-3) \oplus s(n-7) \oplus f(n)$$

20
$$s(n) = s(n-2) \oplus s(n-3) \oplus s(n-4) \oplus s(n-8) \oplus f(n)$$

$$s(n) = s(n-3) \oplus s(n-5) \oplus f(n)$$

$$s(n) = s(n-5) \oplus s(n-6) \oplus f(n)$$

$$s(n) = s(n-4) \oplus s(n-7) \oplus f(n)$$

$$s(n) = s(n-4) \oplus s(n-5) \oplus s(n-6) \oplus s(n-8) \oplus f(n)$$

5

17. The signal of Claim 16, wherein the first communication device and the second communication device comprise communication devices configured to operate under a digital subscriber line technology.

10 18. The signal of Claim 16, wherein resumption of communication occurs after a period of inactivity entered into to reduce power consumption.

19. The signal of Claim 16, wherein the signal is generated utilizing a linear feedback shift register.

15

20. A method for reducing power consumption of one or more communication devices during periods of inactivity comprising:
detecting a period of inactivity;
entering into a mode of reduced power consumption;
receiving a request to resume communication;

generating a sequence signal in response to the request;
transmitting the sequence signal to a remote location to initiate communication.

21. The method of Claim 20, further including monitoring and receiving signals at a
5 remote location;
correlating received signals;
analyzing the correlated signal to determine if the received signal qualifies as a
request to resume communication.

10 22. The method of Claim 20, wherein the period of inactivity comprises a period of
time when the one or more communication devices are not exchanging data.

23. The method of Claim 20, wherein the request to resume communication
comprises a request for data from a user of one or more communication devices.

15 24. The method of Claim 20, further including periodically sending a channel
monitoring signal to periodically obtain updated information regarding the
channel.

20 25. A method for processing a received signal to determine if the received signal is a
request to initiate a warm start operation, the method comprising: